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Mark A. Keffer

Chief Regulatory Counsel Atlantic Region

Room 3-D 3033 Chain Bridge Road Oakton, VA 22185 703 691-6046 FAX 703 691-6093 Email Fax No. 202 263-2692 mkeffer@att.com

Magalie R. Salas, Esq. Secretary Federal Communications Commission 445 12th Street, S.W. Washington, DC 20554

Re: CC Docket No. 00-251/
In the Matter of Petition of AT&T Communications of Virginia, Inc., Pursuant to Section 252(e)(5) of the Communications Act, for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon-Virginia, Inc.

November 9-2015 O NOV 3 2000 NOV 3 2000 FCC MAIL HOOM

Dear Ms. Salas:

Enclosed for filing on behalf of AT&T and its affiliates, please find an original and 3 copies of the Direct Testimony of Michael Kalb, PH.D. and E. Christopher Nurse on behalf of AT&T.

Should you have any questions, please do not hesitate to call.

Sincerely yours,

Mark A. Keffer

cc: Service List **Enclosures**

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Before the **Federal Communications Commission** Washington, D.C. 20554

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CC Docket No. 00-251

CERTIFICATE OF SERVICE

I hereby certify that on this 9th day of November, 2001, a copy of the Direct Testimony Of Michael Kalb, PH. D. and E. Christopher Nurse on behalf of AT&T was sent via hand delivery, facsimile, Federal Express and/or by email to:

Dorothy Attwood, Chief Common Carrier Bureau Federal Communications Commission Room 5-C450 445 12th Street, S.W. Washington, D.C. 20544

Jeffrey Dygert Assistant Bureau Chief Common Carrier Bureau Federal Communications Commission Room 5-C317 445 12th Street, S.W. Washington, D.C. 20544

Katherine Farroba, Deputy Chief Policy and Program Planning Division Common Carrier Bureau Federal Communications Commission Room 5-B125 445 12th Street, S.W. Washington, D.C. 20544

Jodie L. Kelley, Esq. Jenner and Block 601 13th Street, NW Sute 1200 Washington, DC 20005 (for WorldCom)

Jill Butler Vice President of Regulatory Affairs Cox Communications, Inc. 4585 Village Avenue Norfolk, Virginia 23502

Karen Zacharia, Esq. Verizon, Inc. 1515 North Court House Road Suite 500 Arlington, Virginia 22201

Before the Federal Communications Commission Washington, D.C. 20554

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Communications Act, for Preemption of the Jurisdiction of the Virginia)	CC Docket No. 00-251
State Corporation Commission)	
Regarding Interconnection Disputes with Verizon-Virginia, Inc.	<i>)</i>)	

Of
Of MICHAEL KALB, PH.D.
And
E. CHRISTOPHER NURSE

ON BEHALF OF AT&T1

November 9, 2001

This Direct Testimony is presented on behalf of AT&T Communications of Virginia, Inc., TCG Virginia, Inc., ACC National Telecom Corp., MediaOne of Virginia and MediaOne Telecommunications of Virginia, Inc. (together, "AT&T").

1		WITNESS QUALIFICATIONS
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3	Q.	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
4	A.	My name is Michael Kalb. My business address is AT&T Corp., 295 N. Maple
5		Avenue, Basking Ridge, New Jersey.
6 7	Q.	PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.
8	A.	I received a Bachelor of Science degree in Physics in 1969 from the Cooper
9		Union. In 1971 I received a Master of Philosophy degree in Physics and in 1974
10		a Ph.D. in Physics, both from the Yale University. I spent the next five years as a
11		Chaim Weitzman Fellow at Yale University and the Center for Theoretical
12		Physics at the Massachusetts Institute of Technology.
13		I was first employed by AT&T in 1979. At that time, I joined Bell Laboratories
14		as a Member of Technical Staff evaluating the performance of voice and data
15		communications systems on telephone networks. This led to numerous published
16		and proprietary works describing quantitative models of performance based on
17		laboratory and live Network studies. In 1986, I was promoted to Distinguished
18		Member of Technical Staff after beginning the systematic formulation of relevant
19		domestic and international performance parameters and standards for voice and
20		data. In 1994 I was elected Vice-Chair of T1A1.7, the working group responsible
21		for standardization of performance of voice and data communications on North
22		American telephone networks. My work in this domestic standards body
23		culminated with the production of a ratified technical report on the performance
24		of unbundled loops, as mandated by the Telecommunications Act of 1996. Also,

during this period, I consulted frequently with the Law and Government Affairs area of AT&T in the formulation of the LCUG Service Quality Measurements ("SQMs"). In 1999, I moved to the Law and Government Affairs area of AT&T where I continue to apply my performance expertise to problems associated with the Telecommunications Act of 1996. In my current position as policy analyst at AT&T, one of my responsibilities is to identify and promote AT&T's position on the need for adequate, self-executing performance remedies. In that role, I have been directly involved in the development of AT&T's policy on this subject, represented AT&T in numerous LCUG meetings, participated in state workshops relating to performance measurements and consequences, and have met with the Commission and the Department of Justice to provide AT&T's input on a variety of topics relating to performance measurement and incentives. I have represented AT&T and other CLECs in several regulatory proceedings concerning the appropriate statistical methodology to use in an effective performance measures methodology. I have met with the FCC on this issue and have participated in state regulatory workshops and meetings in Virginia, as well as in Vermont, New Hampshire, Rhode Island, Maine, Connecticut, Massachusetts, New York, New Jersey, the District of Columbia, Illinois, Indiana, Michigan, Wisconsin, California, Texas, Florida, Georgia, Louisiana, Nevada, Washington, Oregon and Colorado.

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1	Q.	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
2	A.	My name is E. Christopher Nurse. I am District Manager of Government Affairs
3		for AT&T. My business address is 3033 Chain Bridge Road, Oakton, Virginia
4		22185.
5	Q.	PLEASE DESCRIBE YOUR EXPERIENCE AND QUALIFICATIONS.
6	A.	I received a B.A. in Economics from the University of Massachusetts at Amherst.
7		In 1996, I received a Masters in Business Administration from the Graduate
8		School of Business at Southern New Hampshire University. Previously I held the
9		position of Manager of Regulatory and External Affairs for AT&T Local
10		Services. I have testified before numerous state commissions on behalf of AT&T
11		including a Declaration before the Federal Communications Commission in the
12		Pennsylvania 271 proceeding.
13		Prior to joining AT&T, I was employed in the same capacity by Teleport
14		Communications Group, Inc., beginning in February 1997. ² Prior to that time, I
15		was a telecommunications analyst with the New Hampshire Public Utilities
16		Commission, from 1991 to February 1997. I was assigned to the Engineering
17		Department and was entrusted with a broad range of responsibilities in
18		telecommunications. From 1981 to 1991, I held positions of increasing
19		responsibility in installation, maintenance and repair, construction, operations,
20		and engineering with a number of cable television operators, including
21		predecessors of AT&T Broadband.

Effective July 24, 1998, Teleport Communications Group and its subsidiaries became wholly owned subsidiaries of AT&T Corp.

SUMMARY AND BACKGROUND

We describe why the remedy plan proposed by AT&T is the appropriate plan for

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Q. PLEASE SUMMARIZE YOUR TESTIMONY.

6 the Commission to adopt. Our testimony addresses the self-executing remedies 7 that are critical to ensuring that AT&T receives the level of service required by 8 established performance standards. In addition, our testimony describes the 9 statistical methodology for use in comparing Verizon's performance for itself and 10 its affiliates to the performance it provides to AT&T. The statistical methodology 11 supports the AT&T Performance Incentive Plan ("PIP"), a copy of which is 12 attached to this Testimony as Attachment A. We will also critique some aspects 13 of the remedy plan presented by Verizon in September, 2001, to the Virginia State 14 Corporation Commission ("SCC") in that commission's Collaborative Committee proceeding. Case No. PUC000026.³ Finally, we provide additional detail on the 15 derivation and calculations of the statistical test used in the AT&T PIP in the last 16 17 part of this Testimony. 18

Q. HOW DOES THE PERFORMANCE REMEDIES PLAN ATTACHED TO YOUR TESTIMONY DIFFER FROM THE REMEDIES PLAN THAT WAS FILED BY AT&T WITH ITS ARBITRATION PETITION AS SCHEDULE 26.1.1 TO THE PROPOSED INTERCONNECTION **AGREEMENT?**

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23 A. The PIP remedies plan that AT&T advocates for its interconnection agreement 24 with Verizon provides for compensatory payments from Verizon to AT&T in the

To this point, Verizon has not filed a remedies proposal in this arbitration AT&T assumes that Verizon will advocate the same plan that it submitted to the Virginia Collaborative Committee just two months ago.

1		event that Verizon fails to comply with its performance standards, and that failure
2		affects wholesale service provided to AT&T. These are the so-called "Tier I"
3		remedies. On the other hand, "Tier II" remedies provide for payment from
4		Verizon into a state fund (or the state treasury) for Verizon's failure to comply
5		with its performance standards, and that failure affects CLECs generally to the
6		detriment of competition in the state. AT&T's proposal here does not include
7		Tier II remedies, inasmuch as it would not be appropriate to address industry-
8		wide remedies that affect multiple CLECs in a two-party interconnection
9		agreement. The PIP filed as Schedule 26.1.1 included such Tier II remedies. All
10		references to Tier II remedies have been removed from the PIP attached to this
11		Testimony, and the designation "Tier I" has been dropped.
12 13 14	Q.	IS THE "TIER I" PIP PROPOSED BY AT&T IN THIS ARBITRATION THE SAME PLAN AS AT&T PROPOSED IN THE VIRGINIA COLLABORATIVE COMMITTEE PROCEEDINGS?
15	A.	Yes, it is substantively the same. However, it has been reformatted and revised to
16		make it a more self-contained and more useful road map for the implementation
17		of the plan. Attachment A is complete and suitable for inclusion into the
18		interconnection agreement.
19 20 21	Q.	WHY DID AT&T WITHDRAW ITS PIP PROPOSAL FROM CONSIDERATION IN THE VIRGINIA COLLABORATIVE AND SUBSTITUTE A DIFFERENT REMEDIES PLAN?
22	A.	In August, 2001, with dramatically divergent plans advanced by Verizon and
23		AT&T and no prospect of agreement on a remedies regime, AT&T withdrew its
24		PIP proposal without prejudice and submitted instead the New York Performance
25		Assurance Plan ("PAP"), adjusted to scale the remedies "dollars at risk" to the

Verizon Virginia (former Bell Atlantic) territory. This was done in the interest of breaking the logiam that threatened to render the Collaborative ineffective in achieving a remedies solution for Virginia. Rather than taking the time and resources to litigate each shortcoming of Verizon's plan, AT&T believed that its proposal of adopting the market-tested New York PAP scaled for Virginia would yield economies by taking advantage of the work invested and experience gained with the New York PAP, and that adoption of a scaled New York PAP in Virginia would accelerate the opening of the local exchange market. Moreover, AT&T hoped that Verizon would seriously consider a scaled New York PAP for Virginia, and that therefore a consensus solution might be possible with this approach. Verizon had been using the New York PAP for almost two years and was using the New York-style PAP, scaled accordingly, in Massachusetts as well as Connecticut. Verizon also proposed precisely this

approach in its remedies filings in Rhode Island and New Hampshire. AT&T

believed that Verizon's willingness to accept scaled New York PAP plans

elsewhere suggested that Verizon would have no principled objections to the

concept of scaling the New York PAP for Virginia.

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Q. DID AT&T'S EXPECTATIONS MATERIALIZE?

19 A. No, they did not. It quickly became apparent to us that there would be no meeting 20 of the minds, unless it were to be on Verizon's terms. One month after AT&T 21 submitted its compromise proposal for a scaled New York plan to the Virginia

The remedies cap in Virginia commensurate with the 39% of net revenues cap in effect in New York, Massachusetts, and Connecticut would be \$206 million.

	Collaborative Committee, Verizon countered with a revision to its previously
	filed Performance Assurance Plan ("PAP"). That revision consisted primarily in a
	higher absolute cap \$191 million compared to its previous lowball offer of \$31
	million and higher remedies payments. The structural weaknesses of the prior
	plan that ensured that payments would be relatively insignificant even with
	massive performance failures, and that the cap would never be reached, were
	carried forward untouched. Some of these weaknesses will be discussed later in
	this Testimony. The increased cap and payment rates were ephemeral changes
	that did not advance the ball very much at all. As the SCC Staff stated in its
	Motion to the SCC, the Virginia Collaborative failed to achieve any
	accommodation on remedies. ⁵ For this reason, the SCC Staff has recommended
	that the SCC institute a separate, formal proceeding to consider a remedies plan. ⁶
	By an Order issued October 30, 2001, the SCC stated that it agreed with the
	Staff's recommendation, "and will initiate such a proceeding shortly." ⁷
Q.	WHY DOES AT&T PROPOSE THE PIP IN THIS ARBITRATION, RATHER THAN A SCALED NEW YORK REMEDIES PLAN AS IT DID IN THE VIRGINIA COLLABORATIVE COMMITTEE?
A.	There are three reasons why AT&T proposes the PIP in this arbitration. First, the

AT&T PIP is a more robust and sound remedies regime that is predicated on

Commonwealth of Virginia, ex rel. State Corporation Commission Ex Parte: Establishment of Carrier Performance Standards for Verizon Virginia Inc., Case No. PUC 010206, Staff Motion to Establish Carrier Performance Standards for Verizon Virginia Inc. and for Order Prescribing Notice and Providing for Comment or Request Hearing, dated October 10, 2001 ("SCC Staff Motion") at 5: "However, despite all the participants' considerable efforts, the Subcommittee recognizes that the differences in the proposed PAPs are significant and an agreement regarding a PAP is unlikely to be achieved through the collaborative process."

SCC Staff Motion at 5.

	superior statistical precepts and analysis than other remedies regimes that have
	been adopted by various state commissions, including New York. Second, AT&T
	believes that the Commission is uniquely qualified to evaluate the competing
	claims made for the AT&T PIP and the Verizon PAP, because the Commission
	has evaluated many such plans in § 271 proceedings for a number of states and is
	therefore familiar with the statistical concepts that enter into the development of
	sound remedies plans, and the application of those concepts. And third, AT&T's
	attempt at a compromise in the Virginia Collaborative failed to elicit any
	encouraging response from Verizon, and there is no reason to believe that Verizon
	would be any more forthcoming in this proceeding. Thus, while AT&T remains
	willing to discuss use of a scaled New York PAP in Virginia, there is no reason
	for AT&T to lead with a compromise position when a better solution is readily
	available.
Q.	IF THE COMMISSION DECIDED TO NOT ADOPT THE AT&T PIP AS THE REMEDIES SOLUTION IN THIS ARBITRATION, WHAT ALTERNATIVE DO YOU RECOMMEND?
A.	First let us be clear about what we do <i>not</i> recommend. Under no circumstances
	should the Commission consider adopting the Verizon plan, unless substantial
	changes are made to the plan. As we will demonstrate later in this testimony, the
	Verizon plan is conceptually unsound and inadequate. The Verizon plan will not
	achieve the purposes of any reasonable remedies plan, which are to incent
	compliance with performance standards - that is, make compliance less costly
	than non-compliance – and to compensate AT&T, at least in part, for the harm it

Order For Notice And Comment Or Requests For Hearing at 4. <u>See</u>, http://www.state.va.us/scc/caseinfo/puc/case/c010206.pdf

suffers in terms of lost customers and revenue when Verizon fails to deliver wholesale service to AT&T that complies with the relevant performance standards.

Other than the AT&T PIP, our view is that a scaled New York plan would be far superior to the Verizon plan in these regards. First and most importantly, it provides levels of remedies payments that have proven to be effective in encouraging Verizon to comply with performance metrics and standards, rather than allowing Verizon to consider the payments as just another cost of doing business. Second, it has proven to provide a reasonable amount of compensation to AT&T for the harm done by non-compliant wholesale performance. Third, it has been in effect for two years and is therefore market-tested and well understood by Verizon. Thus, it could be easily implemented because its administration is now well-established and no unfamiliar methods and procedures would be needed to effectuate it in Virginia. And fourth, adoption of a scaled New York plan would have the undeniable benefit of standardizing the remedies regimes throughout the Verizon region, specifically the ex-NYNEX states already mentioned and the ex-Bell Atlantic states.⁸

That is one important reason why ALJ Schnierle recommended a scaled New York plan for adoption by the Commission in Pennsylvania. The Pennsylvania Commission has established a rebuttable presumption that it will implement a scaled version of the New York PAP in Pennsylvania. By a Recommended Decision issued September 28, 2001, Administrative Law Judge Michael E. Schnierle ruled that the Pennsylvania Commission should adopt the New York PAP, with a 39% cap. *Re: Performance Measures Remedies*, Docket No. M-00011468, at 25 and 34-35. Thus, Pennsylvania seems well on its way toward adopting a scaled New York plan. If a scaled New York plan is adopted for Virginia, then Maryland and the District of Columbia are likely to follow.

1		We understand that WorldCom is advocating the adoption of a scaled New York
2		remedies plan in its arbitration. If the Commission decides to not adopt the
3		AT&T PIP, then AT&T would support the adoption of a New York remedies
4		plan, scaled to 39% of Verizon's net revenues in Virginia, and allowing only such
5		ministerial revisions as are necessary to reflect differences between New York
6		and Virginia performance measures and standards.
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8 9 10		SOUND POLICY CONSIDERATIONS MANDATE A SELF-EXECUTING REMEDY PLAN IN THE AT&T/VERIZON INTERCONNECTION AGREEMENT
11 12	Q.	WHAT DO YOU MEAN BY SELF-EXECUTING PERFORMANCE REMEDIES?
13	A.	Remedies are monetary and non-monetary consequences assessed against Verizon
14		for not meeting the established performance standards. Self-executing means that
15		the remedies are automatically triggered upon an objective demonstration that
16		Verizon has failed to provide service at the level required.
17 18	Q.	WHY IS THERE A NEED FOR A SELF-EXECUTING REMEDY PLAN IN THE AT&T/VERIZON INTERCONNECTION AGREEMENT?
19	A.	There are three reasons. First, AT&T must have provisions in place in its
20		interconnection agreement with Verizon to encourage Verizon to comply with the
21		performance metrics and standards applicable to its wholesale services in
22		Virginia, without resort to time-consuming complaint procedures. A set of strong
23		self-executing remedy payments for non-compliance provides that incentive.
24		Second, to the extent that Verizon fails to comply with its performance metrics
25		and standards, AT&T suffers competitive harm in terms of lost customers and
26		revenues. The remedies plan advocated by AT&T for adoption in the

interconnection agreement provides some degree of compensation for the harm suffered by AT&T, without a need for proceedings to quantify the extent of the damages, which would be difficult to do, if doable at all. Third, there is no alternative remedies plan of any kind in effect in Virginia at this time that pays compensation to AT&T. And as of today, the SCC's planned proceeding is not yet instituted, much less concluded. Absent a remedies plan in its interconnection agreement, AT&T may well be left without remedies of any kind for some period of time.

Q. ARE SELF-EXECUTING PERFORMANCE REMEDIES USUAL IN CONTRACTUAL ARRANGEMENTS SUCH AS INTERCONNECTION AGREEMENTS?

A.

Yes. First, there is no reasoned basis to assume that a state's generic remedies regime should be the exclusive recourse available to CLECs for Verizon's noncompliance with performance metrics and standards. In the *New York 271 Order*, the Commission itself explicitly relied on a combination of industry-wide remedies from the NYPSC and remedies in individual interconnection agreements (as well as the Commission's power to impose additional penalties in response to complaints or on its own initiative, and antitrust deterrents). The remedies in New York are premised on the understanding that CLECs may separately receive compensation through their interconnection agreements, to the extent Verizon violates the agreements. It was this combination of remedies that persuaded the Commission to find that the total package of remedies was adequate to ensure

1	non-discriminatory service from Verizon and to preclude backsliding once
2	Verizon was granted 271 authority. ⁹
3	Indeed, Verizon itself touted this very same combination of remedies as a feature
4	that justified its long distance entry in New York. 10 The Commission relied upon
5	combinations of remedies in its other § 271 orders as well. 11 And although
6	Verizon recently asked the New York PSC to eliminate remedies from the
7	AT&T/Verizon New York interconnection agreement, the New York

In the Matter of Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act to Provide In-Region InterLATA Service in the State of New York, FCC 99-295, Order dated December 22, 1999, CC Docket No. 99-295 ("New York § 271 Order") at ¶¶ 430 ("[w]e also recognize that Bell Atlantic may be subject to payment of liquidated damages through many of its individual interconnection agreements with competitive carriers" (emphasis supplied, citations omitted)); and ¶435 ("[t]he performance plans adopted by the New York Commission do not represent the only means of ensuring that Bell Atlantic continues to provide nondiscriminatory service to competing carriers. In addition to the \$269 million at stake under this Plan, as noted above, Bell Atlantic faces other consequences if it fails to sustain a high level of service to competing carriers, including: "federal enforcementaction pursuant to § 271(d)(6); liquidated damages under 32 interconnection agreements, and remedies associated with antitrust and other legal actions." (emphasis supplied)).

Throughout its efforts to secure § 271 approval in New York, Verizon-NY stressed repeatedly that the PAP was superior to other proposed performance plans because the PAP penalties, unlike the other proposed plans, would not be "offset by those due under interconnection agreements." Petition of New York Telephone Company for Approval of a Performance Assurance Plan and Change Control Assurance Plan, Cases 99-C-0949 and 97-C-0271, Order Adopting the Amended Performance Assurance Plan and Amended Change Control Plan, dated November 3, 1999, at 27.

See, for example, Application of Verizon Pennsylvania Inc., Verizon Long Distance, Verizon Enterprise Solutions, Verizon Global Networks Inc., and Verizon Select Services Inc. for Authorization To Provide In-Region, InterLATA Services in Pennsylvania, CC Docket 01-138 at ¶ 130 and cases cited therein (emphasis supplied, footnote omitted): "In response we note that, the PAP is not the only means of ensuring that Verizon continues to provide nondiscriminatory service to competing carriers. In addition to the monetary payments at stake urder this plan, Verizon faces other consequences if it fails to sustain an acceptable level of service to competing carriers, including: enforcement provisions in interconnection agreements federal enforcement action pursuant to section 271(d)(6) and remedies associated with antitrust and other legal actions."

Commission refused to do so. 12 Clearly, state generic performance remedies can and should supplement remedies in interconnection agreements, not displace them. Second, contractual self-executing remedies provisions are necessary to provide credible, effective and timely enforcement of the interconnection agreement between AT&T and Verizon, and to compensate AT&T, at least in part, for the harm it suffers when Verizon fails to comply with its performance standards. There can be no dispute that self-executing remedies provisions are part of the standard contract terms in commercial agreements. They are designed to provide some degree of compensation in cases where a party to an agreement breaches the agreement and where damages are otherwise difficult to quantify, as they would be when Verizon fails to comply with the applicable performance standards. Such interconnection agreement provisions are nothing out of the ordinary. Indeed, the only alternative would be a quagmire of monthly enforcement complaints and proceedings to litigate the extent of damages – clearly an uneconomic and anti-competitive result. This aspect is especially pertinent in the context of an interconnection agreement between an ILEC and a CLEC. ILECs view interconnection agreements with competitors negatively and hostilely, and have no commercial incentive to meet

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See Joint Petition of AT&T Communications of New York, Inc. et al., Pursuant to Section 252(b) of the Telecommunications Act of 1996 for Arbitration to Establish an Interconnection Agreement with Verizon New York, Order Resolving Arbitration Issues, Case No. 01-C-0095, July 30, 2001, at 20. The Commission found that "The metrics and remedy terms of the first agreement were in place before Verizon agreed to implement the PAP. Verizon was clearly

1		their contractual obligations and keep their commitments. ¹³ As AT&T's supplier
2		and competitor, Verizon has the motive, means and opportunity to discriminate,
3		undeterred by ordinary commercial constraints. In such an environment, remedy
4		provisions are essential components of any agreement between Verizon and
5		AT&T, or any other CLECs seeking to compete with Verizon. Without a self-
6		executing contractual compensation regime, Verizon lacks sufficient incentives to
7		perform properly. Moreover, without such remedies AT&T will be subject to
8		significant damages with little immediate recourse.
9 10 11	Q.	WHAT OTHER PUBLIC POLICY OBJECTIVES ARE SERVED BY A SELF-EXECUTING REMEDY PLAN IN THE AT&T/VERIZON INTERCONNECTION AGREEMENT?
12	A.	There must be a plan in place to assure swift and appropriate action if a Regional

Bell Operating Company ("RBOC"), like Verizon, does not provide access to

services and facilities in a nondiscriminatory manner. Nondiscriminatory access

to services and facilities must be evident in Verizon's performance in order for

Verizon to show that its markets are irreversibly open to competition.

This Commission has confirmed that the RBOCs' performance for CLECs will

continue to be evaluated in determining whether markets are irretrievably open to

aware of its potential financial obligations to AT&T (and tens of other competitors) when it consented to the PAP's additional financial consequences."

An illustration of Verizon's mindset in performing its obligations under an interconnection agreement is its view that interconnection agreements are not "voluntary," but rather are contracts of compulsion. See, for example, Petition of AT&T Communications of New York, Inc. and New York Telephone Company for Arbitration Pursuant to 47 U.S.C. § 252, Cases 96-C-0723 and 96-C-0724, New York Telephone Company September 8, 1997, Brief in Support of Its Proposed Performance Standards and Associated Remedies, at 18.

See, e.g., 47 U.S.C. §251 c (2) c and (d).

competition.¹⁵ Moreover, self-executing remedies are needed to enforce the federal and state market opening policies, including Verizon's obligations to provide non-discriminatory access to network elements under § 251(c)(3) of the telecommunications Act of 1996 ("Act"). Self-executing remedies are not solely designed to prevent Section 271 backsliding.

Q. WHY ARE REMEDIES IMPORTANT TO LOCAL COMPETITION?

A.

Performance standards and measurements are critical to ensuring that CLECs are receiving the same level of service from Verizon that Verizon provides to itself or to its affiliates. Verizon is in a unique position as both the main supplier and main competitor of CLECs. As such, Verizon has the capability to seriously affect a CLEC's ability to enter the local market and successfully serve customers. This is evident since CLECs are experiencing the effects of Verizon's poor service in every state throughout its region, including Virginia, where CLECs are attempting to grow a competitive industry for providing local service to residential customers and businesses.

Having sufficient, clearly defined, and disaggregated measures and corresponding standards is only a beginning to ensuring that CLECs are receiving adequate service from Verizon. If there is no incentive for Verizon to abide by the performance standards, then those standards are useless. The remedies provide the incentive for Verizon to comply. Remedies must be significant enough so that

See, New York § 271 Order, ¶ 8, in which the FCC reaffirmed that the adoption of a performance measures system that includes a "strong financial incentive for postentry compliance with the section 271 checklist" is particularly important in opening local markets to competition consistent with the Telecommunications Act of 1996.

it is more beneficial for Verizon to comply with the standards than to pay the penalties for non-compliance. Verizon has much to gain by continuing to provide poor service to CLECs. In providing service to CLECs, Verizon is essentially in the awkward position of helping a competitor take a customer. Therefore, a remedy structure must be established which makes it more economical for Verizon to cooperate and provide adequate service than to discriminate against competing providers to the detriment of local competition. If such discrimination is neither prevented nor discouraged, Verizon will hold onto its customer base and its local services monopoly power.

A.

10 Q. IS THERE A REMEDY PLAN IN EFFECT TODAY IN VIRGINIA THAT 11 INCENTS VERIZON TO PROVIDE ADEQUATE WHOLESALE 12 SERVICES TO CLECS?

No. The sole remedy plan currently in place in Virginia has done absolutely nothing to incent the company to provide adequate wholesale services. That plan was formulated by the Commission as part of the conditions imposed in the Bell Atlantic/GTE merger. First, the merger condition metrics and standards were intended to be transitional only and therefore are less than a complete set of metrics/standards. Second, the merger condition remedies are quite low, providing no effective incentive for Verizon to fix performance problems if Verizon fails to meet those metrics in Virginia, because the cost of noncompliance could easily be less than the cost of compliance. As a consequence, Verizon could effectively ignore its interconnection obligations with impunity for some indeterminate but potentially substantial period of time. And third, the payments under the merger condition remedies go to the federal treasury, not to the CLECs who are most immediately harmed by Verizon's performance failures.

1 Thus, the merger condition remedies do not and cannot fulfill the role played by 2 interconnection agreement remedies, nor were they designed to do so. 3 4 THE AT&T PERFORMANCE INCENTIVE PLAN 5 IS STATISTICALLY SOUND AND ROBUST 6 WHAT PRINCIPLES SHOULD COMPRISE THE FOUNDATION OF AN Q. **EFFECTIVE REMEDIES PLAN?** 8 A. There are several principles that should guide the analysis of whether a remedy 9 plan is sufficient. Those principles are: 10 1. Remedies must be significant enough to incent Verizon to meet its 11 regulatory obligations to provide nondiscriminatory access to services and 12 facilities. AT&T's PIP provides for remedies for poor performance that increase 13 with the level of CLEC activity. The AT&T plan is "scalable" according to the 14 size of the market in the state. Under the plan, the more harm that is done to 15 competition, the greater the remedy payment. The AT&T plan potentially 16 generates remedies for all measures, with the exception of certain agreed diagnostic measurements.16 17 18 2. Remedies must be self-executing. AT&T should not be required to 19 undergo costly and time-consuming litigation when the performance 20 measurements system shows discrimination. The Commission has stated that an 21 effective enforcement plan shall "have a self-executing mechanism that does not 22 leave the door open unreasonably to litigation and appeal." New York 271 Order

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at ¶ 433.

To incent nondiscriminatory performance, remedies should escalate and
 indeed accelerate according to the duration and magnitude of poor performance.

- 4. The remedies plan should be structured so that it is simple to implement and administer. The AT&T PIP, while sophisticated and somewhat complex in development in order to produce accurate assessments, is robust and very simple to administer.
 - The remedies plan should be based on an appropriate set of measures. There should be a comprehensive set of comparative measures in appropriate activity areas to show a customer's true experience when Verizon delivers services, facilities, and support. If key activity areas (e.g., hot cuts, lost orders, etc.) are not captured with a measure, important and often customer-affecting performance problems go unaddressed. The Virginia State Corporation Commission ("SCC") is currently considering an appropriate set of measures that reflect agreements between AT&T and other CLECs with Verizon, that are based upon the metrics and standards worked out in New York. There are seven unresolved issues that the Collaborative parties were unable to agree upon and that the SCC is being asked to resolve. AT&T is prepared to have the SCC decide the open issues, and to use the resulting metrics/standards for the purposes of its PIP.
 - 6. An effective plan should provide reasonable assurances that the reported data is accurate. *New York 271 Order* at ¶ 433. A remedies plan should be based

For diagnostic measurements, I recommend that, where for a particular measure Verizon's performance is substandard for six consecutive months, the measurement automatically become eligible for remedies.

1 on a verified (audited) system with verifiable data and processes. There should be 2 a thorough audit of the performance measurements system by a recognized 3 neutral party who utilizes a disclosed and industry-reviewed methodology before 4 it is officially implemented for the industry. 5 7. An appropriate statistical methodology should be in place, that has been 6 thoroughly tested and verified. 7 Q. WHY IS A STATISTICAL TEST NECESSARY? 8 A. It is important to use appropriate statistical procedures to do the comparisons 9 because the performance results for many measures may exhibit unavoidable 10 random variation. A statistical approach accounts for this random variation while 11 controlling the risk of reaching an incorrect conclusion about discrimination. 12 Once an appropriate basis for comparison -- which includes the measurements, 13 their definitions, their measurement apparatus, etc. -- has been established, a tool 14 is needed to determine quantitatively whether Verizon has provided 15 nondiscriminatory treatment. Merely reporting averages of performance 16 measurements alone, without further analysis (the "stare and compare" method) does not allow a reliable conclusion whether differences in performance results 17 18 reflect discrimination. 19 The Commission supported the use of statistical comparisons in Bell Atlantic and 20 SBC Orders. In the *New York 271 Order*, Appendix B, the Commission stated: 21 When making a parity comparison, statistical analysis is a useful 22 tool to take into account random variations in the metrics. In the 23 Second Louisiana Order, we encouraged BOCs to submit data 24 allowing us to determine if any detected difference between the 25 wholesale and retail metrics is statistically significant.

2	Ų.	RETAIL ANALOG, THAT IS FOR WHICH PARITY IS THE STANDARD?
4	A.	Yes. In fact, a statistical test should be applied only to those measures for which
5		there are retail analogs. Regardless of which parity measure is under
6		consideration, there must be a pre-established comparison process to assure that
7		the levels of performance for an individual CLEC are at least equal in quality to
8		Verizon's performance for its own retail service operation (or that of Verizon's
9		affiliates and subsidiaries). This comparison process for parity measures is
10		completed through the use of a statistical test. However, merely requiring
11		Verizon to apply statistical testing is not enough, because Verizon's plan also has
12		a statistical basis, albeit a flawed one. For example, it is the poor coupling of
13		statistical testing and a "per occurrence" remedy, as the Verizon plan provides,
14		that makes the remedy provisions little guard against anti-competitive behavior.
15		On the other hand, the use of statistical testing is inappropriate for the class of
16		measures held to benchmark standards.
17 18	Q.	WHY IS STATISTICAL TESTING NOT APPROPRIATE FOR BENCHMARK PERFORMANCE MEASURES?
19	A.	Applying statistics to benchmarks renders the actual benchmarks meaningless.
20		This is because statistical testing of benchmarks establishes a "zone of
21		forgiveness" on top of that already implicitly included in the benchmark.
22		Benchmarks are rarely set at 100% compliance, but usually at a lower number.
23		This lower number allows for a certain level of forgiveness, since it is not usually
24		reasonable to assume perfection. A statistical test on top of the built-in
25		forgiveness gives Verizon an unwarranted extra buffer in meeting a banchmark

1		This is particularly egregious for small sample sizes, since the standard now
2		allows potentially large deviation from the benchmark.
3	Q.	WHAT STATISTICAL METHODOLOGY DOES AT&T RECOMMEND?
4	A.	The statistical methodology recommended by AT&T is based on use of the
5		modified z statistic and a critical value that balances type 1 and type 2 error
6		probabilities. The modified z methodology is described in detail in a paper issued
7		by the Local Competition Users Group. ¹⁷ The statistical foundations of the
8		methodology are also summarized in the last section of this Testimony, starting
9		on page 48.
10	Q.	WHAT IS A "Z STATISTIC" AND HOW IS IT USED IN THE AT&T PIP?
11	A.	The z statistic or z score is simply an index for comparing measurement results
12		for different samples drawn from the same population. The z score is a ratio of
13		the difference in the two sample means being compared and the standard
14		deviation estimated for the overall population. The z-score compares the two
15		samples on a standard scale, making proper allowance for the sample sizes.
16		For each parity submeasure the difference between Verizon's performance for its
17		retail operation (or that of its affiliates) and the performance it provides for AT&T
18		is converted to a value of the modified z statistic. For purposes of remedy
19		calculation, out-of-parity performance occurs when the z-score value exceeds the
20		balancing "critical value" (I explain this term a bit later in this Testimony).
21		Values of the modified z statistic that are less than the critical value are taken to

See "Statistical Tests for Local Service Parity", Version 1.0, February 6, 1998, Local Competition Users Group.

be indications of discrimination. AT&T proposes an error balancing
methodology for determining the critical value. This balancing methodology
takes into account sample size and a level of measured failure that is considered
material by the parties.

Q. WHAT IS THE PREDICATE FOR THE ERROR BALANCING METHODOLOGY THAT YOU RECOMMEND?

A.

The predicate is the need to balance the probabilities of statistical error under a pass/fail parity standard in an unbiased way. In order to understand this balancing procedure, it is necessary to study briefly the properties of a statistical test of parity. For any given submeasure, there is an actual state of parity or disparity that exists. Based on data collected from this actual state, the test is performed. However, random variation in the data can lead to erroneous declaration of the test. After all, only a finite number of data points are taken and they could come on a particularly bad or good day for the process. Therefore, consider the table below:

Actual State of Performance Submeasure:

Disparity

Declaration of	Parity	Correct Declaration	type 2 Error				
Statistical Test:	Disparity	type 1 Error	Correct Declaration				
If the test declaration is one of parity and the actual state of the submeasure is also							
parity, then the declaration is correct. Similarly, if the declaration is one of							
disparity, and the actual state is one of disparity, again the test is correct.							
However, because of random variation the declaration could be in error in two							
different ways: A declaration of disparity can ensue even though parity is the							
actual state. This	is known as	a "type 1" error. Or, a	declaration of parity is				

Parity

1		calculated even though the actual reality is one of disparity, which is known as a
2		"type 2" error. Both types of errors can happen and may have sizable probability
3		depending on the number of data points and the (material) difference from parity
4		of the alternative hypothesis. 18
5 6	Q.	HOW DOES A TYPE 1 ERROR AFFECT THE EVALUATION OF VERIZON'S WHOLESALE PERFORMANCE?
7	A.	This is an error that may occur due to random variation that indicates that Verizon
8		is favoring its retail operations and therefore discriminating, when in fact, it is not
9		Naturally, an ILEC is most interested in minimizing type 1 error.
10 11	Q.	HOW DOES A TYPE 2 ERROR AFFECT THE EVALUATION OF VERIZON'S WHOLESALE PERFORMANCE?
12	A.	This is an error that may occur due to random variation that indicates that Verizon
13		is not favoring its retail operations and therefore not discriminating, when in fact,
4		it is. CLECs are most interested in minimizing type 2 error. AT&T's proposal
15		fairly balances the probabilities for both types of errors. As we will demonstrate
16		later, Verizon's proposal minimizes type 1 error but essentially ignores type 2
17		error.

This fact exposes another important weakness in the use of a fixed confidence methodology such as proposed in the Verizon plan. This proposed statistical method not only fixes confidence but *de facto* fixes the type 1 error probability (at less than 5% as it turns out). Moreover, the type 2 error probability depends on this fixed type 1 error value and the number of data points collected. However, as we have noted the number of data points is determined by business factors out of anyone's control. Therefore, the type 2 error probability varies considerably and uncontrollably each month, for each submeasure and for each CLEC; the rate of this variation also increases as the magnitude of the type 1 error probability decreases. This circumstance disproportionately favors Verizon at the expense of the overall accuracy of the tests. A fixed type 1 error methodology is often discussed in idealized text-book cases are more apt for data collection in controlled experiments. For such controlled experiments a fixed type 1 error probability is properly assumed, sufficient data points are then taken to bring the type 2 error to any reasonable value, usually less than or equal to the type 1 error, in order to produce an unbiased and conservative declaration.

1 2	Q.	WHAT IS A "CRITICAL VALUE" AND WHAT CRITICAL VALUE DOES AT&T RECOMMEND?
3	A.	The critical value is the value of the modified z statistic which signals whether
4		parity or out-of-parity exists. AT&T recommends as the critical value what the
5		"balancing" approach would give with the parameter "delta" set at a value of 0.25.
6		As shown in Attachment A, the critical value is simply calculated from the CLEC
7		sample size, the Verizon sample size and the selected value for the parameter
8		"delta."
9	Q.	WHAT IS THE PARAMETER "DELTA?"
10	A.	The parameter "delta" measures the size of the violation from parity. The larger
11		the delta we choose, the larger the difference between retail and wholesale
12		performance that is considered material. Once delta is chosen, the formula makes
13		proper allowance for the effect of CLEC and Verizon sample sizes. A larger delta
14		implies a stronger signal before test failure for all degrees of violations. In other
15		words, when delta is large, the balancing occurs at a more extreme degree of
16		violation. The value of delta should be chosen such that the alternative represents
17		a "material difference" from parity. A more detailed description of the derivation
18		of the delta parameter is in this Testimony starting at page 55.
19 20 21 22	Q.	WHAT IS THE DISAGREEMENT BETWEEN THE PARTIES ON THE VALUE OF THE PARAMETER "DELTA" WHICH DEFINES THE DEGREE OF VIOLATION OF PARITY AT WHICH THE BALANCING SHOULD OCCUR?
23	A.	The parties do not yet agree on what is the value of the parameter "delta" which
24		defines the degree of violation of parity at which the balancing should occur,
25		because the resolution of this question cannot be based solely on a technical

analysis. Ideally, this decision should be based on business judgment, namely by

consideration of how large a violation of parity must be before it is "important." Thus, the selection of a delta value ties market realities directly to the test for parity. On the other hand, Verizon proposes a fixed critical value scheme. Its proposal is based on an arbitrary and often unjustified choice of the critical value.

AT&T wants a smaller delta because AT&T believes it is important to be able to detect a small <u>but meaningful</u> degree of violation, if it occurs. It is important to recognize that the parameter delta is a constant that does not depend on the sample size of the data used in the test. This property of delta also makes the test itself explicitly independent of sample size. This is an advantageous property of the test because whether Verizon passes or fails a test does not depend on the number of CLEC data points but only depends on the underlying wholesale service process that generated the performance and ensuing data. Thus, the test results will not be confounded by arcane statistical effects.

A.

Q. WHY DO YOU RECOMMEND THAT THE DELTA FOR THE CRITICAL VALUE SHOULD BE SET AT A VALUE OF 0.25?

To understand the implications of this and other choices, consider what, for example, a delta value of 1.0 implies for how many customers receive bad service. Consider the level of service that Verizon provides for the 1% of its own customers that receive the worst service. Then, if we assume the observations are approximately normally distributed, a violation with the delta equal to 1.0 means that 9.2% of CLEC customers will get service this bad, (*i.e.* the CLEC poor service rate is more than nine times the Verizon rate). Similar results will be obtained if we assume other distribution shapes other than normal. On the other hand, with delta set equal to 0.25, 1.8% of CLEC customers receive service this

'		badsuil hearty twice the verizon rate out far more reasonable and fairer than the
2		result with delta set equal to 1.0.
3		As another example consider a measure that is expressed as a percentage, for
4		which Verizon consistently achieves 90%. Then a delta equal to 1.0 corresponds
5		to making the CLEC proportion 46.4%, while a delta equal to 0.25 corresponds to
6		81.3%. Similarly, if the Verizon proportion is 99%, with a delta equal to 1.0 the
7		CLEC alternative is 68.1%, while with a delta equal to 0.25 it is 95%. Since they
8		allow far too many more CLEC customers to receive inferior service than ILEC
9		customers, the delta alternatives greater than 0.25 are much too lenient.
10 11 12	Q.	IS THE DECISION ABOUT THE VALUE OF THE PARAMETER DELTA REQUIRED BEFORE IMPLEMENTING AT&T'S STATISTICAL METHODOLOGY?
13	A.	Not necessarily. AT&T's methodology can use the fixed value –1.04 as the
14		critical value (15% alpha). It is at -1.04 that the probability of type 1 or type 2
15		errors are approximately balanced. As a compromise, the California PUC ordered
16		that a fixed 10% alpha be employed for the interim test period, before a balancing
17		methodology is implemented. A 10% alpha corresponds to a critical value of -
18		1.28 in the standard normal distribution tables. The California PUC also ordered
19		a "conditional test" at a 20% alpha (critical value of -0.84) applicable for small
20		samples to increase even further the statistical power of this interim period test of
21		fixed critical values.

1	Q.	PLEASE DESCRIBE THE VALIDATION OF THE STATISTICAL
2		METHODOLOGY ADVOCATED BY AT&T AND PRESENTED IN THE
3		PIP.

4 A. The appropriateness of the methodology advocated by AT&T has been validated 5 as part of the Louisiana and Georgia proceedings addressing service quality 6 performance measurements for BellSouth. In fact, BellSouth supports the 7 methodology throughout its footprint. Recently, the California Commission 8 recognized that the balancing methodology had the most desirable properties of all those it analyzed. 19 The methodology is also under discussion and review in 9 10 other regions and states nationally including Vermont, New Hampshire, Maine, 11 Illinois, and the entire BellSouth region.

Q. DESCRIBE THE STATISTICAL METHODOLOGY ISSUES THAT WERE CONSIDERED IN THE ANALYSIS OF DATA IN THE PERFORMANCE MEASURES PROCEEDING IN LOUISIANA.

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A. The Louisiana Public Service Commission included language in an August 31, 1998 order in Docket No. U-22252-C requiring BellSouth to give CLECs access to raw data that underlies BellSouth's reports. In that proceeding, AT&T entered into a protective agreement with BellSouth so that AT&T's statistician could receive at least some of BellSouth's performance data and work with it for analyzing the proper working of the statistical test. The ability to look at the data and analyze it is critical to determining the appropriate statistical test. One

Public Utilities Commission of the State of California, Docket No. 97-10-016, *Interim Opinion on Performance Incentives*, Decision 01-01-037 (January 18, 2001) at 88 and 95.

Order, In re: BellSouth Telecommunications, Inc., Service Quality Performance Measurements, Docket No. U-22252, Subdocket C, August 31, 1998.

BellSouth provided some of its raw data associated with four measures it includes in its SQM. The measures for which AT&T's statistician received some raw data were: Order Completion Interval, Maintenance Average Duration, Missed Repair Appointments, and Missed Installation Appointments.

cannot be assured that the data characteristics are properly accounted for in the statistical methodology unless one can observe the data and how it behaves over time. The Louisiana Public Service Commission's order provided the opportunity to actually see raw data and, thereby, confirm and refine the statistical methodology.

A.

Several issues were considered in the CLECs' analysis of the data, including whether the modified z statistic, as explained in the LCUG paper, was feasible (considering this was the first opportunity to apply the modified z statistic to actual data), whether the modified z statistic properly handled small sample sizes, whether the results of the modified z statistic methodology differed from the results BellSouth obtained using its "jackknife" method (a test statistic originally proposed by BellSouth in Louisiana which it eventually abandoned), and if those results differed, why they did. The original LCUG proposal did not address the aggregation issue, but the AT&T statistician proposed a way of aggregating modified Z from the cell level for comparison with BellSouth's then proposed "jackknife" method.

17 Q. WHAT CONCLUSIONS WERE REACHED AFTER ANALYZING THE DATA?

AT&T analyzed the raw data which confirmed the following: (1) the modified z statistic is an effective component of the methodology for parity determinations; (2) there were some issues to resolve with handling small sample sizes; and (3) the method based on LCUG's modified z statistic and BellSouth's "jackknife" method produced different results.

Q. WHAT WERE THE ADDITIONAL PRIMARY CONCLUSIONS THAT WERE REACHED AFTER ANALYZING THE DATA?

A. BellSouth's statisticians concluded through the work they did in the Louisiana proceeding that in performing permutation calculations for small samples, it is not necessary to use the LCUG formula. That formula can be replaced by the simpler and faster "pooled Z" formula, if desired. The statisticians also concluded that aggregation of results from many small cells into a single overall statistic raises several new problems that had not been addressed in the LCUG paper given that results for modified z were assessed at the submeasure level without considering the need for aggregation of several cells into a single overall statistic. Most importantly, the statisticians also concluded that the method they developed for balancing the critical value is an efficient and quantitative means of establishing a critical value.

Q. IS THE DEVELOPMENT OF THE BALANCING CRITICAL VALUE METHODOLOGY COMPLETE?

A. Yes, and it is incorporated into the AT&T PIP. However, AT&T and Verizon disagree on the principles underlying the approach to accommodating type 1 and type 2 errors. Verizon favors a fixed critical value approach that is more appropriate for controlled experimentation, as opposed to the uncontrolled observational data collection technique that characterizes the proposed performance measures in Virginia. In addition, the Verizon fixed critical value approach does not choose an alternative hypothesis leading to the appropriate value of the "delta" parameter that specifies the degree of non-compliance that is judged to be serious, and therefore completely ignores the importance of type 2 errors. The balancing critical value development is completed with the choice of

1		the value of parameter "delta" which in turn defines the materiality associated
2		with the test.
3 4 5	Q.	TO SUM UP, WHAT DOES AT&T RECOMMEND THAT THIS COMMISSION ORDER CONCERNING THE STATISTICAL METHODOLOGY?
6	A.	At a minimum, there are two things that should be included in the Commission's
7		decision in this arbitration. First, AT&T proposes that this Commission order the
8		modified z and balancing critical values as the basis of the statistical methodology
9		for parity/disparity declarations. Second, AT&T proposes that this Commission
10		order the parameter delta value be set at 0.25 so that AT&T may incorporate it
11		into its statistical methodology. In the absence of these recommended actions, the
12		commission should order the use of -1.04 as a fixed critical value that
13		approximates the balanced result.
14 15 16	Q.	WHEN THE PIP IS IMPLEMENTED, WILL AT&T BE SATISFIED THAT THE RECOMMENDED STATISTICAL METHODOLOGY WILL ACCURATELY EVALUATE VERIZON'S PERFORMANCE?
15	Q. A.	THAT THE RECOMMENDED STATISTICAL METHODOLOGY WILL
15 16	-	THAT THE RECOMMENDED STATISTICAL METHODOLOGY WILL ACCURATELY EVALUATE VERIZON'S PERFORMANCE?
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